

ACCESSION NR: AP4037551

uniqueness of the optimal control is proved for a series of examples.
Orig. art. has: 20 formulas.

ASSOCIATION: none

SUBMITTED: 23Apr63 DATE ACQ: 09Jun64 ENCL: 00

SUB CODE: MA NO REF Sov: 008 OTHER: 002

Card 3/3

85932

16,3500

S/020/60/134/003/022/033XX
C 111/ C 333

AUTHOR: Yegorov, Yu. V.

TITLE: Hyperbolic Equations With Discontinuous Coefficients

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol.134, Nr.3, pp.514-515

TEXT: In the domain $Q = \Omega \times [0, T]$, where Ω is a domain of the space $x = (x_1, \dots, x_n)$ and is bounded by S , the author considers the hyperbolic equation

$$(1) \quad \frac{\partial^2 u}{\partial t^2} = \sum_{i,j=1}^n \frac{\partial}{\partial x_i} (a_{ij}(t, x) \frac{\partial u}{\partial x_j}) + \sum_{i=1}^n b_i(t, x) \frac{\partial u}{\partial x_i} +$$

+ e(t, x)u + f(t, x)

where $\xi \geq \xi_0 > 0$, $a_{ij} = a_{ji}$. Ω is subdivided into domains $\Omega_1, \dots, \Omega_m$ by $(n-1)$ -dimensional surfaces γ . The ξ, a_{ij} are continuous in $Q_r = \Omega_r \times [0, T]$, can, however, show discontinuities

Card 1/6

85932

S/020/60/134/003/022/033XX
C 111/ C 333

Hyperbolic Equations With Discontinuous Coefficients

of the first kind on the surfaces $\Gamma \equiv \mathcal{S} \times [0, T]$. The author investigates the classical and the generalized solution of the mixed problem for (1) with conditions

$$(2) \quad u(t, x) \Big|_{t=0} = \varphi_0(x), \quad \frac{\partial u(t, x)}{\partial t} \Big|_{t=0} = \varphi_1(x), \quad u(t, x) \Big|_{\Gamma} = 0$$

where $\mathcal{S} \equiv S \times [0, T]$. The classical solution is to be twice continuously differentiable in \bar{Q}_r and satisfy (1) + (2) in $Q \setminus \Gamma$, and on Γ it is to verify

$$(3) \quad [u(t, x)]_{\Gamma} = 0, \quad [K(t, x) \frac{\partial u}{\partial N}]_{\Gamma} = 0.$$

Here $K(t, x) \geq K_0 > 0$ is a piecewise smooth function with discontinuities of the first kind on Γ ;

$$\frac{\partial u}{\partial N} = \sum_{i, j=1}^n a_{ij}(t, x) \cos(\gamma, x_i) \frac{\partial u}{\partial x_j}$$

Card 2/6

85932

S/020/60/134/003/022/033XX
C 111/ C 333

Hyperbolic Equations With Discontinuous Coefficients

ν is the normal to Γ ; and the symbol $[v]_\Gamma$ denotes the jump of v on Γ . A generalized solution of (1), (2), (3) is defined to be an element $u(t, x) \in W_2^{(1)}(\Omega)$ (see (Ref.4)) for which

$$u|_{t=0} = \varphi_0, \quad u|_{\partial\Omega} = 0 \quad \text{and}$$

$$(4) \iint_0^T \left\{ K \left(\frac{\partial u}{\partial t} - \frac{\partial F}{\partial t} - \sum_{ij=1}^n K a_{ij} \frac{\partial u}{\partial x_i} \frac{\partial F}{\partial x_j} + \left[\sum_{i=1}^n (K b_i - \right. \right. \right.$$

$$\left. \left. \left. a_{ij} \frac{\partial K}{\partial x_j} \right) \frac{\partial u}{\partial x_i} + \frac{\partial K}{\partial t} \cdot \frac{\partial u}{\partial t} + K u + K f \right] \right\} F \, dx \, dt +$$

$$\int_{\Omega} (K \varphi_0) \Big|_{t=0} F(0, x) \varphi_1(x) \, dx = 0$$

Card 3/6

85932

S/020/60/134/003/022/033XX
C 111/ C 333

Hyperbolic Equations With Discontinuous Coefficients

is satisfied for every $F \in W_2^{(1)}(\Omega)$ which vanishes on $\partial\Omega$ and for $t \geq t_1$, $t_1 \in (0, T)$.

Theorem 1: Let ϱ , a_{ij} , b_i , c and the generalized derivatives

$\partial\varrho/\partial t$, $\partial^2\varrho/\partial t^2$, $\partial a_{ij}/\partial t$, $\partial b_i/\partial t$ be measurable and bounded in \bar{Q}_T ; $K(t, x) \in C^{(2)}(\bar{Q}_T)$; $f(t, x) \in L_2(Q)$; $\varphi_0(x) \in W_2^{(1)}(\Omega)$
 $\varphi_0(x) \mid_{S} = 0$; $\varphi_1(x) \in L_2(\Omega)$. Let S and γ be piecewise smooth.

Then there exists a unique generalized solution of (1), (2), (3).

The proof is carried out according to O. A. Oleynik (Ref. 2, 3) by replacing the coefficients $\varrho(t, x)$ etc. by functions

$$\varrho^h \in C^{(\infty)}(Q)$$

etc. which for $h \rightarrow 0$ converge in the mean to ϱ etc. According to (Ref. 5) there exists a solution

$$u_h \in C^{\infty}(Q^h)$$

Card 4/6

85932

S/020/60/134/003/022/033XX
C 111/ C 333

Hyperbolic Equations With Discontinuous Coefficients
 of the corresponding problem. The author gives an estimation of $\|u_h\|$
 from which there follow the weak compactness of $\{u_h\}$ and thereby
 the existence of the solutions. The uniqueness is proved according
 to (Ref.5).

Theorem 2: If S and γ are continuously differentiable up to the
 order $1 + 2(l \geq n + 1)$ if the γ are closed and do not intersect
 themselves and S , if $K, P, a_{ij} \in C^{(1+1)}(\bar{Q}_r)$; $b_i, c \in C^{(1)}(\bar{Q}_r)$;
 $f \in W_2^{(1)}(Q \setminus \Gamma)$, $\varphi_0 \in W_2^{(1+2)}(\Omega \setminus \gamma)$, $\varphi_1 \in W_2^{(1+1)}(\Omega \setminus \gamma)$
 and if

$$(6) \quad \varphi_\alpha / s = 0 \quad [\varphi_\alpha]_\gamma = 0, \quad \left[\sum_{p=0}^{\infty} c^p \sum_{i,j=1}^n \left(\frac{\partial^p}{\partial t^p} K a_{ij} \right) \right]_{t=0}$$

$$\frac{\partial \varphi_{\alpha-p} \cos(\gamma, x_j)}{\partial x_i} \Big|_\gamma = 0 \quad (\alpha = 0, \dots, 1)$$

where it is $\varphi_\alpha \equiv \partial^\alpha u / \partial t^\alpha \Big|_t = 0$ and is determined for $\alpha \geq 2$
 with the aid of (1) from φ_0 and φ_1 , then the generalized

Card 5/6

85932

S/020/60/134/003/022/033XX
C 111/ C 333

Hyperbolic Equations With Discontinuous Coefficients

solution of (1), (2), (3) is also the classical solution. For
 $l \geq 1 + 1 + K$ it is $u(t, x) \in C^{(K)}(\overline{Q_T})$.

The Cauchy problem can be similarly treated for a linear hyperbolic system of first order with discontinuous coefficients in the plane as well as for some symmetric problems in $(t; x_1, \dots, x_n)$.

The author mentions S. M. Nikol'skiy, L. N. Slobodetskiy and B. L. Sobolev; he thanks O. A. Oleynik for advices.

There are 8 Soviet references.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

PRESENTED: May 7, 1960, by J. G. Petrovskiy, Academician

SUBMITTED: May 6, 1960

Card 6/6

23882

S/186/61/003/001/015/020
A051/A129213200
AUTHORS: Yegorov, Yu.V., Pushkarev, V.V., Tkachenko, Ye.V.TITLE: Coprecipitation of micro-quantities of Sr^{90} with active manganese dioxide in the presence of macro-quantities of barium and potassium

PERIODICAL: Radiokhimiya, v 3, no 1, 1961, 87-89

TEXT: The authors have established that the competition of micro-quantities of Sr^{90} with macro-quantities of calcium and barium in their coprecipitation with active manganese dioxide obeys an equation, whereby the logarithm of the distribution coefficient of Sr^{90} is linearly dependent on the logarithm of the molar ratio of the total quantity of the analogue to the sorbent. The given equation is said to be derived from the law of active masses. The authors further show that barium is stronger than calcium in suppressing the sorption of Sr^{90} with active manganese dioxide; this fact leads to the conclusion that the formed sorbing compounds of the calcium and barium manganate

Card 1/4

23882

S/186/61/003/001/015/020
A051/A129Coprecipitation of micro-quantities of Sr⁹⁰ ...

type have varying stability, i.e., the corresponding compound of calcium is more subjected to hydrolysis than the other. The relationship described above was derived from the following considerations: 1) the sorbent is located in the range of saturation by the analogue (barium or calcium), 2) the pH of the solution is constant, 3) the ratio of the activity coefficients of the analogues and Sr⁹⁰ in the solid phase is constant, which is the same as the absence of a noticeable interaction between the adsorbed cations (Ref 7). The factors used were: A_T the quantity of the analogue in the solid phase (in moles), A_{liquid} the quantity of the analogue in the liquid phase (in moles), $A_0 = A_T + A_{\text{liquid}}$ the total quantity of the analogue in the system (in moles), ϵ the distribution coefficient of Sr⁹⁰ equal to the ratio of the adsorbed part to the equilibrium part, m the mass of the sorbent (in moles), z_1 and z_2 the charges of the ions of the analogues and Sr⁹⁰. The following relationships are designated by A and G :

$$A = \frac{A_0}{m} \quad (1)$$

$$G = \frac{A_T}{m} \quad (2)$$

then on the basis of the law of active masses the expression:

Card 2/4

23882
S/186/61/0C3/001/015/020
1051/1129

Coprecipitation of micro-quantities of Sr⁹⁰ ...

$K_0 = \frac{A^{1/z_1}}{A^{1/z_2}} \cdot \varepsilon^{1/z_2}$ (3) is found, where $K_0 = \text{const}$ under conditions of constancy of the temperature; in the given case the volume of solution and sorbent mass are also constant.

If $K_0^{z_1} = K$, and transforming (3) we obtain $K = \varepsilon^{z_1/z_2} \left(\frac{A_0}{A} - 1 \right)$ (4).

Taking into consideration (1) and (2) and taking the logarithm of (4), the following equation is obtained:

$$\lg \varepsilon = B - \frac{z_2}{z_1} \lg (A - 1) \quad (5), \text{ where } B = \lg(KG)^{z_2/z_1}.$$

An analysis of the obtained relationship showed that under the given conditions the sorbent has a capacity of 0.38 mM Sr/mM MnO₂. For sufficiently high values of A, formula (5) is written approximately:

$$\lg \varepsilon = B - \frac{z_2}{z_1} \lg A \quad (6). \text{ The experimental data obtained agree favorably with this expression. The absolute value of the angle co-}$$

Card 3/4

23882

Coprecipitation of micro-quantities of Sr⁹⁰ ... S/186/61/003/001/015/020
A051/A129

efficient $\frac{z_2}{z_1}$ in this range is equal to 1 for both analogues. This proves the equality of the ion charges of these analogues and Sr⁹⁰ during the exchange process. The macro-quantities of barium have a stronger depressing action on the sorption of the micro-concentrations of Sr⁹⁰ than equimolar quantities of calcium. This is thought to be due to the different relationship of the analogues to the sorbent. There are 6 formulae and 2 graphs.

Figure 1: Coprecipitation of strontium with active manganese dioxide. Longmuir's isotherm.

$t^0 = 17-19^{\circ}\text{C}$, strontium chloride was labelled with Sr^{90} . Experiments without access of air.

Card 4/4

PUSHKAREV, V.V.; YEGOROV, Yu.V.; TKACHENKO, Ye.V.; PUZAKO, V.D.

Sorption of microquantities of strontium-90 by ferric hydroxide
in the presence of alkaline earth metals. Izv.vys.ucheb.zav.;
khim.i khim.tekh. 4 no.1:60-63 '61. (MIRA 14:6)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova, kafedra
radiokhimii.

(Strontium--Isotopes) (Sorption)

33183

21.4.200
S/186/61/003/006/002/010
E040/E185

AUTHORS: Yegorov, Yu. V., Krylov, Ye. I., and Tkachenko, Ye. V.

TITLE: Contribution to the theory of the distribution of micro-quantities of radioactive strontium between hydrated oxides and the solution

PERIODICAL: Radiokhimiya, v.3, no.6, 1961, 654-661

TEXT: In spite of the considerable scientific and technical importance of the processes of radioisotope adsorption on metal hydroxide, the mechanism of the process is still far from being elucidated, especially at micro-concentrations of radioisotopes, and no unified ideas have so far been formulated for the co-precipitation of radioisotopes with the hydrates. These problems are analysed theoretically and a series of equations is derived for the absorption of micro-quantities of the cations of radioisotopes (which do not form radiocolloids) by the precipitates of metal hydroxides capable of behaving as cationites in acid media. The following assumptions were made in the derivation of the equations: 1) the hydrated oxides have ion-exchange properties and, under certain definite conditions, behave as a cationite in

Card 1/3

33183

S/186/61/003/006/002/010

E040/E185

Contribution to the theory of

acid medium; 2) the law of active mass is applicable to the system; and 3) the radioactive isotope behaves as an electrolyte at infinite dilution. The equations were checked by plotting experimental data obtained for the absorption of radioactive strontium (Sr^{90}) by ferric hydroxide and active MnO_2 as a function of the pH of the medium. The S-shaped curves obtained represent a general function of the type $y = C + mpH$ and thereby confirm the correctness of the assumptions made, especially with regard to the ion-exchange character of the sorption of strontium by metallic hydroxides. I.Ye. Starik, A.I. Novikov, L.G. Kuz'mina and Yu.V. Morachevskiy are mentioned in the article in connection with their contributions in this field. There are 3 figures and 22 references: 12 Soviet-bloc, 1 Russian translation from non-Soviet-bloc publication, and 9 non-Soviet-bloc. The four most recent English language references read as follows:
Ref. 3: M.H. Kurbatov, G.B. Wood, J.D. Kurbatov,
J. Chem. Phys., v.19, 2, 258 (1951).

Card 2/3

33183

Contribution to the theory of ... S/186/61/003/006/002/010
EO40/E185

Ref.4: M.H. Kurbatov, G.B. Wood, J.D. Kurbatov.
J. Phys. a. Coll. Chem., v.55, 7, 1170 (1951).

Ref.5: M.H. Kurbatov, G.B. Wood,
J. Phys. Chem., v.56, 6, 698 (1952).

Ref.16: A. Kozawa, J. Electrochem. Soc., v.106, 7, 552 (1959).

SUBMITTED: October 31, 1960

Card 3/3

X

6.00
S/121/62/000/004/005/008
D040/D113

1.1600
AUTHORS: Kupershmidt, Sh. N., and Yegorov, Yu. V.

TITLE: Automatic reader for co-ordinate jig boring machines

PERIODICAL: Stanki i instrument, no. 4, 1962, 33-36

TEXT: The described new reader developed and tested at the Moskovskiy zavod koordinatno-rastochnykh stankov (Moscow Co-Ordinate Jig Boring Machine Plant) for program-controlled jig borers is an improvement on existing optical readers used by this plant, the Leningradskiy stankozavod im. Sverdlova (Leningrad Machine Tool Plant im. Sverdlov) and other plants. The existing device with a 65- or 125-fold amplification has 0.001-0.002 mm scale divisions and produces inadequate line shadow on the screen because the illuminance of the latter is too weak (0.5-2 lx). The new system has an improved photoelectric transducer with light modulation produced by a diagram oscillating at 50 cps, so that the appearance of a dark line in the field of view of the photocell causes a pulse signal on the amplifier output. The diagram is oscillated by an electromagnet connected to

X

Card 1/2

Automatic reader for co-ordinate Jig

S/121/62/000/004/005/008
DO40/D113

the electric network. The system includes an amplifier, a phase-sensitive stage, and a phase regulator. It has been stated in tests that the optimum diaphragm slot width is 1.3 mm, that the slot length must be smaller than the sensitive layer of the photoresistor, that the slot must be placed precisely opposite the center of the photoresistor, and that the oscillation amplitude must not extend beyond the sensitive layer. The new reader has a reading accuracy higher than 1μ , a simple design, and stable characteristics. Mathematical formula for the modulator motion, and diagrams of the system and of the photoelectric transducer, are given. There are 9 figures.

Card 2/2

PUSHKAREV, V.V.; TKACHENKO, Ye.V.; YEGOROV, Yu.V.; LYUBIMOV, A.S.

Sorption of some radioactive isotopes from aqueous solutions by
active manganese dioxide. Radiokhimia 4 no.1:49-54 '62.
(MIRA 15:4)

(Radioisotopes) (Sorption) (Manganese oxides)

S/186/62/004/003/019/022
E075/E436

AUTHORS:

Yegorov, Yu.V., Pushkarev, V.V., Tkachenko, Ye.V.

TITLE:

On the influence of ethyl alcohol on the sorption of strontium ions with an active manganese dioxide

PERIODICAL: Radiokhimiya, v.4, no.3, 1962, 371-373

TEXT: The object of the work was to elucidate the nature of the connection between the parameter of sorption affinity a from the Langmuir isotherm, and the solution properties. The Langmuir isotherm is given as

$$\frac{C_p}{C_c} = \frac{1}{\Gamma \cdot a} + \frac{1}{\Gamma} C_p \quad (1)$$

where C_p - equilibrium concentration of Sr^{2+} in solution; C_c - adsorption of Sr^{2+} , Γ - capacity of sorbent.

An active MnO_2 was used as a sorbent. The compound undergoing distribution was $SrCl_2$ labelled with Sr^{89} , and the non-aqueous solvent ethyl alcohol. The latter was added to the solution of $SrCl_2$ in water containing a coagulated MnO_2 sol. It was found

Card 1/2

On the influence of ethyl ...

S/186/62/004/003/019/022
E075/E436

that the capacity of the sorbent is the same in all the experiments. Parameter a increases with the decreasing dielectric constant of the medium. It was shown that when the dielectric constant of the solution changes from 58.0 to 75.5, there exists a linear dependence of $\lg a$ on the reciprocal of dielectric constant of the alcohol-water solution. There are 1 figure and 1 table.

SUBMITTED: May 12, 1961

Card 2/2

YEGOROV, Yu.V.; NIKOLAYEV, V.M.; KRYLOV, Ye.I.; TKACHENKO, Ye.V.

Possibility of using a mixture of isotopes of Sr⁸⁹ and
Sr⁹⁰ Y⁹⁰ in direct radiometry. Radiokhimia 4 no.4:516-518
'62. (MIRA 15:11)

(Strontium—Isotopes)
(Yttrium—Isotopes) (Radiometry)

TKACHENKO, Ye.V.; PUSHKAREV, V.V.; YEGOROV, Yu.V.

Adsorption of strontium by manganese dioxide from water-ethanol
solutions. Izv.vys.ucneb.zav.; khim.i khim.tekh. 5 no.1:172-
174 '62. (MIRA 15:4)

1. Ural'skiy politekhnicheskiy institut imeni Kirova, kafedra
radiokhimii.

(Strontium) (Adsorption) (Manganese oxides)

YEGOROV, Yu. V.; KRYLOV, Ye. I.

Nature of absorption of electrolytes by some precipitates.
Izv. vys. ucheb. zav.; khim. i khim. tekhn. 5 no.5:749-752
'62. (MIRA 16:1)

1. Ural'skiy politekhnicheskiy institut imeni S. M. Kirova,
kafedra khimii i tekhnologii redkikh elementov.

(Adsorption) (Electrolytes)

YEGOROV, Yu.V.; KRYLOV, Ye.I.; TKACHENKO, Ye.V.

Analysis of the sorption capacity of iron hydroxide. Trudy Ural.
politekh.inst.no.121:39-44 '62.

(MIRA 16:5)

(Iron hydroxides)

(Sorption)

PUSHKAREV, V.V.; TKACHENKO, Ye.V.; YEGOROV, Yu.V. ;KARLOV, V.A.

Adsorption of strontium by active manganese dioxide from water-alcohol solutions. Trudy Ural.politekh.inst.no.121:45-48 '62.
(MIRA 16:5)

(Strontium)

(Adsorption)

(Manganese oxides)

16,800
S/020/62/145/004/002/024
B112/B102

AUTHOR: Yegorov, Yu. V.

TITLE: Certain problems in the optimum control theory.

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 145, no. 4, 1962, 720 - 723

TEXT: A controlling function $p(t)$ ($|p(t)| \leq 1$) is said to be I-optimal if the solution of the boundary value problem $\partial u(t,x)/\partial t = \partial^2 u(t,x)/\partial x^2$, $u(0,x) = 0$, $\partial u(t,0)/\partial x = 0$, $\partial u(t,1)/\partial x = \alpha[p(t) - u(t,1)]$, corresponds to \sqrt{A} the minimum value of the functional $I(p) = \int_0^1 [u(T,x) - u_0(x)]^2 dx$, where $u_0(x)$ is a given function. It is demonstrated that an I-optimal control exists everywhere. A few other versions of this problem are considered. Their solvability and uniqueness are shown, and convenient methods of solving them are derived.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

Card 1/2

S/020/62/145/004/C02/C24
B112/B102

Certain problems in the optimum ...

PRESENTED: March 15, 1962, by L. S. Pontryagin, Academician

SUBMITTED: March 14, 1962

✓A

Card 2/2

YEGOROV, Yu.V. (Moskva)

Some problems in the theory of optimum control. Zhur. vych. mat.
i mat. fiz. 3 no.5:887-904 S-0 '63. (MIRA 16:11)

YEGOROV, Yu.V.; KRYLOV, Ye.I.

Effect of the mass of a collector (hydrated oxide) on the sorption
of trace amounts of certain radioactive isotopes. *Radiokhimiia* 5
no.2:205-211 '63.

Characteristics of the sorption of strontium 90 by active manganese
dioxide. 211-215 (MIRA 16:10)

S/186/63/005/002/001/005
E075/E136

AUTHORS: Yegorov, Yu.V., and Krylov, Ye.I.

TITLE: Some peculiarities of sorption of strontium-90 on
active manganese dioxide

PERIODICAL: Radiokhimiya, v.5, no.2, 1963, 211-215

TEXT: Sorption of micro-quantities of ^{90}Sr was studied on an active MnO_2 resulting from the action of H_2O_2 on KMnO_4 under conditions of free coagulation, whereby the precipitate (MnO_2) sorbed a proportion of K^+ ions and the pH of the system remained constant. The dependence of $[\text{OH}^-]$ on the mass "concentration" of the sorbent $[\text{m}_s]$ was determined acidimetrically. The following equations were obtained:

$$[\text{m}_s]_{\text{ef}} = 0.64 [\text{m}_s]^{1.24} \quad (1)$$

$$[\text{OH}^-] = 0.42 [\text{m}_s]^{1.68} \quad (2)$$

where $[\text{m}_s]_{\text{ef}}$ - effective mass of sorbent. The quantity of ^{90}Sr removed by MnO_2 is given by:

Card 1/2

Some peculiarities of sorption of ...

S/186/63/005/002/001/005
E075/E136

$$c = K_1 [m_s]^{2.92} \quad (4)$$

where K_1 - constant. Eq.(4) was confirmed experimentally for a solution of $KMnO_4$ (0.192 to 1.15 mM/l), KCl (8 g/l) and about 10 microcuries/l ^{90}Sr precipitated by H_2O_2 . K_1 was found to be 164. The amount of coagulant (KCl) affects strongly the distribution of ^{90}Sr between MnO_2 and the solution. There are 3 figures and 1 table.

SUBMITTED: March 26, 1962

Card 2/2

ACCESSION NR: AT4017556

8/3074/62/000/047/0073/0085

AUTHOR: Yegorov, Yu. V. (Assistant)

TITLE: Efficient controlled ferrite phase shifter,

SOURCE: Leningrad. Elektrotekhnicheskiy institut. Izv., no. 47, 1962, 73-85 ...

TOPIC TAGS: phase shifter, ferrite phase shifter, controlled ferrite phase shifter, LSE mode, LSM mode, longitudinal transverse waves, field concentration in ferrite

ABSTRACT: The paper deals with the case of a ferrite slab of arbitrary dimension located near any of the walls of a rectangular waveguide, magnetized along an arbitrary axis, for an arbitrary wave propagation mode. The solution is obtained by the perturbation method, using the solutions of the unperturbed problem in the form of LSE and LSM modes, the behavior of which was investigated under

Card 1/2

ACCESSION NR: AT4017556

the corresponding cases by the author earlier (Izvestiya LETI, No. 47, 1962). Allowance is made for the concentration of the field in the ferrite, which plays the decisive role in the theory of operation of efficient phase shifters. Simple formulas are proposed for the ferrite-slab calculations so as to ensure maximum utilization of this effect. The calculations are confirmed by experiment. The good agreement between the calculations and the experiment for the case of a single slab leads to the conclusion that the proposed calculation procedure is valid also for other ferrite structures with analogous physical phenomena. This applies also to the phase shifter of Reggia and Spencer (Proc. of IRE, v. 45, 11, 1957). Orig. art. has: 6 figures and 20 formulas.

ASSOCIATION: Leningradskiy elektrotekhnicheskiy institut (Leningrad Electrotechnical Institute)

SUBMITTED: 00May61 DATE ACQ: 20Mar64 ENCL: 00
SUB CODE: GE, SD NR REF Sov: 003 OTHER: 004

Card 2/2

L 10049-63

ACCESSION NR: AR3000388

S/0058/63/000/004/H023/H023

44

SOURCE: PZh. Fizika, Abs. 4Zh136

AUTHOR: Yegorov, Yu. V.

TITLE: Longitudinal-transverse waves in rectangular waveguide filled with two different media

CITED SOURCE: Izv. Leningr. elektrotekhn. in-ta, vyp. 47, 1962, 86-97

TOPIC TAGS: waveguides, loaded, field components

TRANSLATION: The propagation of waves in a layered rectangular waveguide is considered. A system of two longitudinal-transverse electromagnetic waves is introduced, equivalent to the system of electric and magnetic waves. For each of these types, a characteristic equation is obtained in the case of two layers of a dielectric in the waveguide. Plots are made for the dependence of the propagation constant in a partially filled waveguide as a function of the composition and thickness of the filling dielectric. G. Postnov

Card 1/2

NIKOLAYEV, V.M.; KRYLOV, Ye.I.; BAGRETSOV, V.F.; YEGOROV, Yu.V.

Behavior of radiocolloids of cerium in sorption systems.

Radiokhimiia 5 no.5:622-626 '63.

(MIRA 17:3)

L13242-63

ENT(d)/FCC(w)/BDS AFFTC IJF(C)

ACCESSION NR: AP3000509

S/0020/63/150/002/0241/0244

52

AUTHOR: Yegorov, Yu. V.TITLE: Optimal control in a Banach space (6)

SOURCE: AN SSSR. Doklady*, v. 150, no. 2, 1963, 241-244

TOPIC TAGS: optimal control, Banach space

ABSTRACT: Given the differential equation

$$\frac{dx(t)}{dt} = f(x(t), u(t)), \quad x(a) = x_0, \quad (a < t < b),$$

where the range of f and x is a Banach space while that of u is a topological space. The problem is to find x and u satisfying the equation in such a way that u is optimal. Author formulates necessary conditions for u to be optimal in the form of the maximum principle for the following cases: (i) $x(b) = x_1$, an arbitrary point; (ii) $x(b) \in S$, where S is a manifold; (iii) $x(b) \in T$, where T is a convex body.

Orig. art. has 3 formulas.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University)

Card 1/2

ACCESSION NR: AP4012265

S/0089/64/016/001/0048/0051

AUTHOR: Pushkarev, V. V.; Yegorov, Yu. V.; Tkachenko, Ye. V.; Zolotavin, V. L.

TITLE: The clearing and purification of radioactive sewage by the flotation method

SOURCE: Atomnaya energiya, v. 16, no. 1, 1964, 48-51

TOPIC TAGS: ferrous hydroxide, aluminum hydroxide, flotation method, ion exchange, titration method, nephelometric method, residue, settling method, solvation

ABSTRACT: The flotation of ferrous and aluminum hydroxides to purify radioactive sewage water containing surface-active, detergent, and complex-forming substances has been investigated. The moisture of the floated hydroxides and the effective elimination of the hardsalt [sylvite], detergents, and certain radioactive elements from the solution were studied. Elimination of radioactivity from the drain water was determined by the extraction of Sr⁹⁰, Y⁹⁰, and Nb⁹⁵. The temperature maintained in the course of all experiments was 16–20°C. Preliminary tests revealed sulfate soap to be a satisfactory flotation agent for the selected hydroxides. Comparison of

Card 1/2

ACCESSION NR: AP4012265

the flotation and settling methods of water purification showed that the residue left by the flotation method is smaller in volume and contains less moisture than the residue obtained by the settling method under similar conditions. Also, the flotation method took much less time than the settling method in clearing the sewage water. Some industrial enterprises use ferrous salts as well as aluminum salts, or a mixture of both, as a coagulant for the purification of their waste waters. It was found that in a low-alkaline medium aluminum hydroxide can clarify a solution by either the settling or the flotation method. Orig. art. has: 3 tables.

ASSOCIATION: none

SUBMITTED: 28Jan63

ATD PRESS: 3045

ENCL: 00

SUB CODE: NP

NO REF S OV: 007

OTHER: 003

Card 2/2

L 20770-66 EWP(k)/EWP(h)/EWP(d)/EWP(l)/EWP(v) IJP(c)
ACC NR: AP6012035 SOURCE CODE: UR/0020/64/159/005/0971/0974

AUTHOR: Yegorov, Yu. V.; Milyutin, A. A.

ORG: Moscow State University im. M. V. Lomonosov. Moskovskiy gosudarstvennyy universitet; Institute of Chemical Physics, AN SSSR (Institut khimicheskoy fiziki AN SSSR)

TITLE: Sufficient conditions for a strong extremum in a class of curves with a bounded derivative 31
B

SOURCE: AN SSSR. Doklady, v. 159, no. 5, 1964, 971-974

TOPIC TAGS: calculus, optimal control, curve theory 16. 44. 5

ABSTRACT: Strong extremum conditions in classical calculus of variations are of a non-local character. Here it is shown that this is not due to the fact that the functional is not continuous in space $C(a,b)$, but because the space of variation of derivatives is unbounded. In optimal control theory, compact control space problems are common. Compactness enables one to give sufficient conditions for optimality which are only a function of the extremum, because when the space is compact, it suffices to establish a strong minimum for neighboring curves, where nearness is understood in the sense of the Mathematical Theory of Optimal Processes by PONTRYAGIN, et al. Three theorems are proved for curves satisfying differential and variational conditions establishing bounds for the Hamiltonians which are functions of coordinates in the phase space. This paper was presented by Academician L. S. Pontryagin on 15 June 1964. Orig. art. has: 8 formulas.

SUB CODE: 12, 13 / SUBM DATE: 11Jun64 / ORIG REF: 004
Card 1/1 21

YEGOROV, Yu.V.; NIKOLAYEV, V.M.

Radiocolloids in sorption systems. Part 2: Collective sorption isotherm
in a system with variable mass of sorbent. Radiokhimia 7 no.3:273-280
'65. (MIRA 18:7)

EGOROV, Yu.V., LYSIMOV, A.S., KHRUSTALEV, B.N.

Radioisoloids in sorption systems. Part 3: Effect of hydrogen-
ion concentration. Radiokhimiia 7 no.4:386-394 '65.
(MIRA 18:8)

PUSHKAREV, V.V.; KHRUSTALEV, B.N.; YEGOROV, Yu.V.

Possibility of estimating the size of a solvated ion radius
by measuring sorption equilibrium. Radiokhimiia '7 no.4;
400-405 '65. (MIRA 18:8)

L 34050-66 EWT(m)/T IJP(c) DS/WW
ACC NR: AP6025485

SOURCE CODE: UR/0186/66/008/001/0009/0014

AUTHOR: Yegorov, Yu. V.; Nikolayev, V. M.; Lyubimov, A. S.64
B

ORG: none

TITLE: Radiocolloids in sorptive systems. IV. Role of neutral electrolyteSOURCE: Radiokhimiya, v. 8, no. 1, 1966, 8-14

TOPIC TAGS: electrolyte, sorption, cesium, rubidium

ABSTRACT: The behavior of distributing micro-component-radiocolloid is investigated in a sorptive system with a variable concentration of neutral electrolyte, and it is shown that if stepwise overcharging of neutral radiocolloid particles by electrolyte ions is assumed, the coefficient of gross distribution depends on the electrolyte composition according to a hyperbolic curve. Simplified variants of the isotherm are proposed and verified for the case of sorptions of Ce^{4+} by vermiculite from a sodium nitrate medium and sorption of Ru^{106} (III) by activated manganese dioxide from a potassium chloride medium. It is shown that one of the approximate formulas describing this system can be also derived from the assumption of a relationship of the heat effect of radiocolloid sorption with concentration of neutral electrolyte. V. P. Savel'yov participated in the experimental work. Orig. art. has: 3 figures and 24 formulas.

IJPRS: 35, 728
SUB CODE: 07 / SUBM DATE: 12Jul65 / ORIG REF: 014 / OTH REF: 006
Card 1/1 UDC: 541.183.2"541.183.5

YEGOROV, Yu.Ye. [Ikhorov, IU. IE.]

Socialist reforms in Czechoslovakia. Nauka i zhyttia 8
no.2:52-54 F '58. (MIRA 13:5)
(Czechoslovakia--Economic conditions)

YEGOROV, Yu.Ye. [Dhorov, IU. IE.]

The country of mountain eagles. Nauka i zhystia 9 no.11:57-58
N '59. (MIRA 13:3)

1. Chlen pravleniya Ukrainskogo ottdeleniya obshchestva sovetsko-al-
albanskoy druzhby.
(Albania--Economic conditions)

YEGOROV, Yurii Yevgen'yavich [IEhorov, IU.IE.]; KISEL', Anatoliy Stepanovich [Kysil', A.S.]; PERESADENKO, I.A., otv. red.; SKRIPNIK, V.T. [Skrypnyk, V.T.], red.

[The Ukrainian Soviet Socialist Republic; a reference book] Ukrains'ka Radians'ka Sotsialistychna Respublika; dovidkovyi material. Kyiv, 1961. 39 p. (Tovarystvo dlia poshyrennia politychnykh i naukovykh znan' Ukrains'koi RSR. Ser.1, no.10) (MIRA 14:9) (Ukraine--Economic conditions)

YEGOROV-KUZ'MIN, A. S.

USSR/Electronics

Magnetrons

Bibliography

Apr 49

"Review of 'Magnetrons' by D. Fisk, G. Hagstrom, and P. Hatman (Translation)," A. S. Yegorov-Kuz'min, 2 pp

"Elektrichestvo" No 4

Favorable review. Subject book is a translation of an article in "The Bell-System Technical Journal," summarizing work done on magnetrons in the US during the war. Book will be useful for wide circles of specialists in ultrahigh-frequency techniques, radar techniques in particular.

39/49T31

TEPLOV, Lev Pavlovich; GUROV, S., red.; YEGOROVA, khudozh.-tekhn.red.

[Sketches on cybernetics] Ocherki o kibernetike. Moskva,
Mosk.rabochii, 1959. 229 p. (MIRA 12:12)
(Cybernetics)

BELKIN, A.; BORISOV, A.; GENIN, B.; GUSLITSER, I.; GRUZDEV, V.; DICH, S.;
DUSEYEVA, Ye.; YEGOROVA, A.; ZAK, S.; KAZYMOV, A.; KRUPENNIKOVA, Ye.;
KONKIN, A.; MOGILEVSKIY, Ye.; PAKSHVER, A.; SMELKOV, G.;
CHICHKHIANI, A.; CHUGUNOV, K.; SHIFRIN, L.; YUNOVICH, E.

Sergei Alekseevich Tairov. Khim.volok. no.3:79 '62.

(MIRA 16:2)

(Tairov, Sergei Alekseevich)

ZAKS, N. F. - PROF.; YEGOROVA, A. A.; NYURANEN, L. A.; OLENEV, YU. V.

Milking

Heat action on the udder as a means of increasing fat content of milk. Sov. zootekh. 7 no. 9, 1952.

SO: Monthly List of Russian Accessions, Library of Congress, November, 1952. Uncr.

YEGOROVA, A.A.

Composition of milk in successive portions of a single milking.
Izv.Kar. i kol'.fil.AN SSSR no.3:71-80 ' 58. (MIRA 11:12)

1. Institut biologii Karel'skogo filiala AN SSSR.
(Milk--Composition)

YUDOROVA, A. A., Cand Biol Sci (diss) -- "The content of basic organic substances and the fat composition of consecutive portions of one milking of cows".

Leningrad, 1960. 21 pp (Acad Sci USSR, Inst of Physiology im I. P. Pavlov),
150 copies (KL, No 14, 1960, 130)

NEGINA, V.R.; ZAMYATNINA, V.N.; YEGOROVA, A.A.; Prinimali uchastiye:
PRESNYAKOVA, M.A.; CHIKISHEVA, L.S.; SHEVCHENKO, P.P.; TRUBIN, I.A.;
MAL'KOV, V.I.

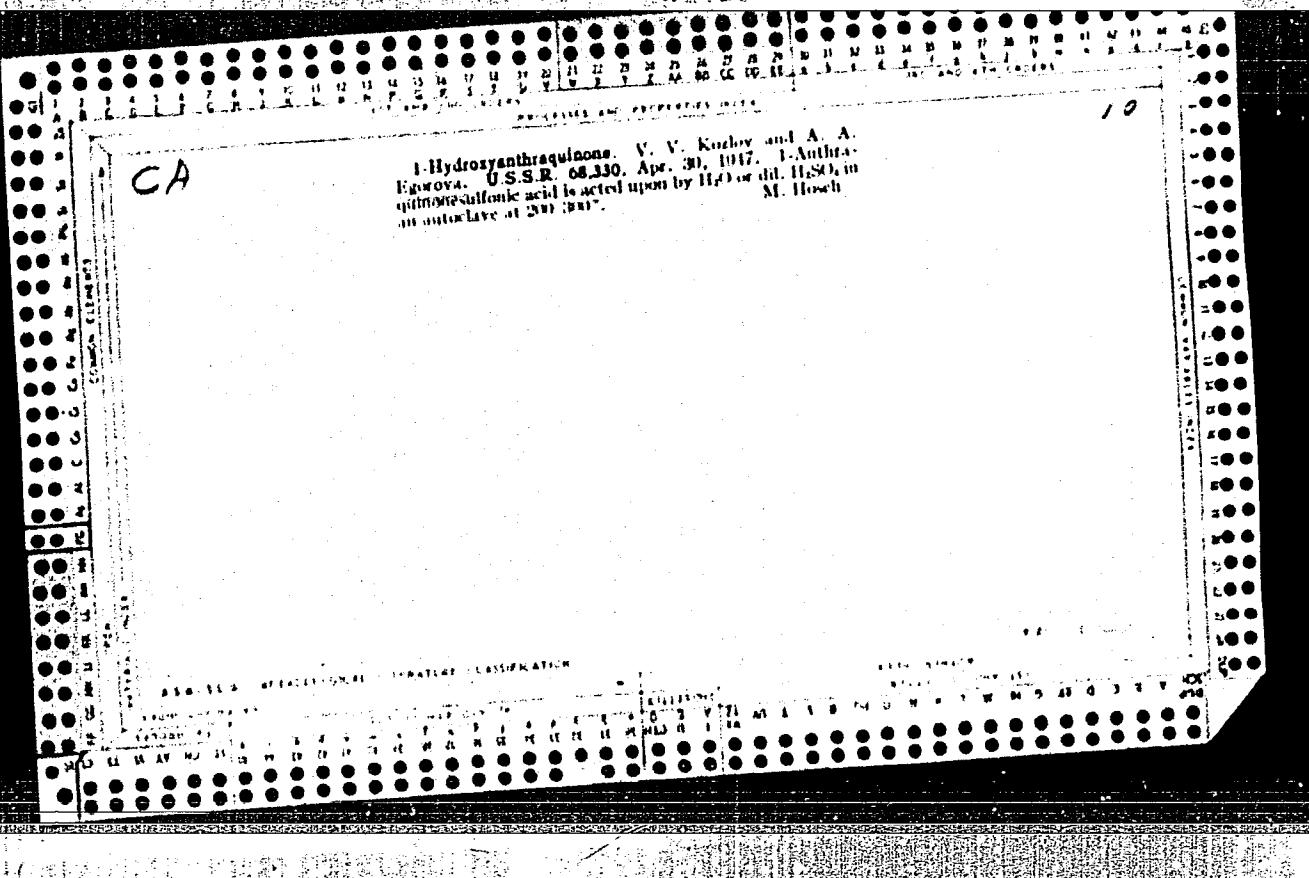
Determination of chlorine, arsenic, and phosphorus impurities in
some organic materials by the activation method. Radiokhimia 5
no.2:270-272 '63. (MIRA 16:10)

ca

10

The synthesis of camphor by the method of J. Eller.
Yu. S. Zal'kind and A. Igurova. *Narodnyi Komissariat
Tsvetnoy Prom. S. S. R., Nauch.-Issledovatel. Inst.
Plasticheskikh Mass. Plasticheskie Massy, Sbornik 2,
320-330(1937); cf. C. A. 27, 4789.---Minor modifications
are suggested.* H. M. Leicester

ASH-SEA METALLURGICAL LITERATURE CLASSIFICATION



CA

Hydrolysis of anthraquinonemonosulfonic acids. V. V. Kozlov and A. A. Egorova (Chem.-Tech. Mendeleyev Inst., Moscow). *Doklady Akad. Nauk S.S.R.* 57, 407-70 (1947); *Chem. Zentr. (Russian Zone Ed.)* 1948, II, 800-1; cf. *C.A.* 43, 3451c. —Contrary to data in the literature, *1-anthraquinonemonosulfonic acid* (I) can be hydrolyzed to anthraquinone (II) by 85% H_2SO_4 , even in the absence of Hg salts. The acid or its Na salt heated with 85% H_2SO_4 under pressure at 100-200° for 6 hrs. yielded 81% II. Hydrolysis of the 2-acid under pressure is likewise possible in principle. However, heating this acid with water at 300° for 6 hrs. gave only 8% II. When the acid was heated to high temps. with concd. H_2SO_4 , side reactions occurred. Hg salts made the hydrolysis of the 2-acid proceed smoothly but were of no value with the 1-acid. It could be hydrolyzed with 85% H_2SO_4 at 100-200° even in an open vessel or with dil. acid (5%) under pressure at 200°; yield of II, 90%. The reaction is very much accelerated by the presence of Hg, with a Hg-organic compd. being formed. Heated with water at 180-300° formed 1-hydroxyanthraquinone (III), m. 100°; the reaction liquid contained H_2SO_4 . When dil. H_2SO_4 (0.25%), or even 10%, was used, the yield of III decreased in favor of the compd. with no OH group. Even when the salt of the acid (Na, K, NH₄, or Cs) were used, the yield of III was poor. It could be increased by using 0.5% H_2SO_4 with the Na salt of I and heating at 250-300° for 12-18 hrs. Heating I with water in the presence of a Hg salt reduced the yield of III; when H_2SO_4 (3-85%) was used only II was obtained. When *1,2-anthraquinonodibutanoic acid* was heated with H_2SO_4 in the presence of Hg salts only the 1-sulfonic acid group was attacked so that the 2-acid was formed. M. G. Moore

KOZLOV, V.V.; YEGOROVA, A.A.

Study of the anthraquinone series. Part 23. Hydrolysis of anthra-
quinonesulfonic acid- α . Zhur. ob. khim. 25 no.4:809-814 Ap '55.
(MLRA 8:7)

(Anthraquinonesulfonic acid)

YEGOROVA, A. A.

3-

Anthraquinone series, XXIV. Hydrolysis of anthraquinone- α -sulfonic acid with replacement of the sulfo group by hydroxyl. V. V. Korlov and A. A. Egorova, *Zhur. Obshch. Khim.* 25, 937-1003 (1955); cf. *C.A.* 50, 24904. —Anthraquinone- α -sulfonic acid (I) is hydrolyzed at above 100° by H₂O or dil. H₂SO₄ in a closed system without participation of Hg catalysts yielding α -hydroxyanthraquinone; at higher concn. (85%) of H₂SO₄, anthraquinone also appears. Addn. of Hg salts does not alter the direction of the reaction of hydrolysis, but 5% or more Hg salts favors the formation of anthraquinone rather than of hydroxyanthraquinone. At 230° in H₂O the rate const. is 2.37×10^{-4} . In a monomol. reaction, at 100° the const. is 0.9×10^{-4} , at 210° 1.02×10^{-4} , at 230° 2.52×10^{-4} , at 300° 6.21×10^{-4} . Kinetic data are supplied. Also

CH

In *J. Gen. Chem. U.S.S.R.* 25, 1163-7 (1955) (Eng. translation). **XXV.** Hydrolysis of anthraquinone-1,8-disulfonic acid. V. V. Korlov. *Ibid.* 1206-12; cf. *C.A.* 43, 3400g. —Anthraquinone-1,8-disulfonic acid (I) can be hydrolyzed in H₂O and H₂SO₄ at 30° or higher in a closed system without the presence of Hg salts. Either one or both sulfonic acid groups are replaced by H or HO, all the combinations being found among the products. Hg salts aid the formation of products in which H replaces the SO₃H group. The most complete hydrolysis occurs in 0.25% H₂SO₄ when in 6 hrs at 260° 100% 1-hydroxyanthraquinone-8-sulfonic acid (III, m. 256° (from HCl), is formed; this forms a sparingly sol. Na salt. —The amt. of unreacted I can be detd. by treatment of the mixt. with KClO₄; the I remains unoxidized. It is not chlorinated by KClO₄. The acidic groups in I are thus not equivalent. —The kinetic results of hydrolysis with and without the presence of HgSO₄ are given in tables and graphically.

G. M. Koepkeoff

pm ① AH

BARSKAYA, T.A.; YEGOROVA, A.A.

Effect of soil temperature on the activity of catalase and peroxidase in cold resistant plants and plants requiring high temperatures.
Trudy Kar. fil. AN SSSR no.28:25-30 '60. (MIRA 14:9)
(Plants, Effect of soil temperature on) (Catalase)
(Peroxidase)

8c

A-4

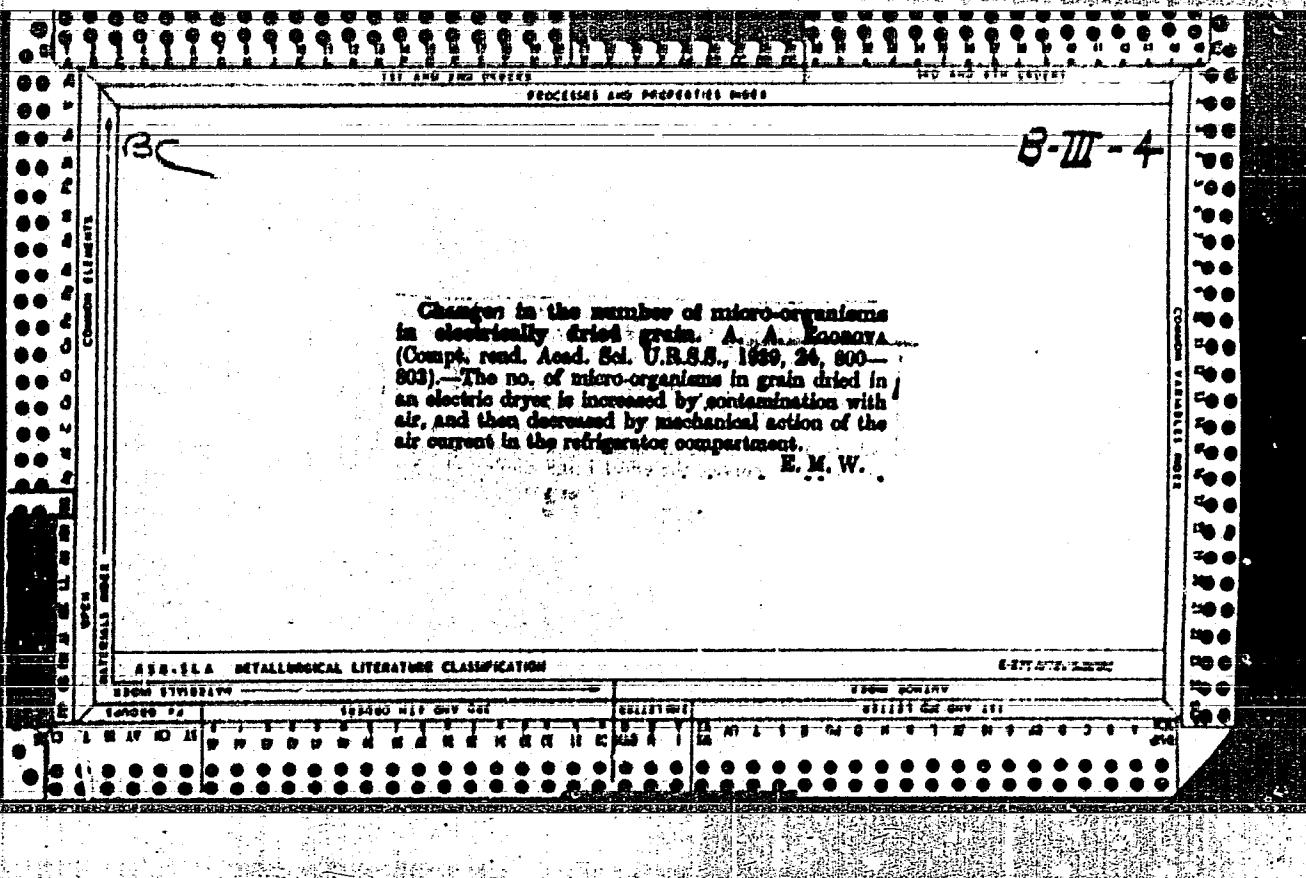
Thermophilic bacteria in the Arctic. A. A. KODSOVA (Osspt. rezd. Acad. Sel. U.R.S.S., 1930, 18, 649-650).—Bacteria which can develop at 20-30° are found in different arctic regions. The min. temp. for growth on agar and broth are 45° and 36° respectively. J. N. A.

AMERICAN METALLURGICAL LITERATURE CLASSIFICATION

સુધી સુધીના

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001962510013-3"



Investigation of the medicinal mud and mineral water of Lake Kok-Chaga (Turkmenian S. S. R.), A. A. EGOROV and O. A. SOKOLOVA. *Microbiology* (USSR) 9, 401-3 (in English, 401) (1940).—The temp. of the salt in this small salt-water lake rises with the distance from shore. The temp. of the mud is 40-42° at 1.2 m. from shore and 25-30° at a depth of 0.7-1 m. *Microbacterium thermodesulfuricum* Khon (L), thio- and putrefactive bacteria were found in the mud. Platings of the mud at 40° gave a max. of 0.6 g. H₂S per l., and at 27-30°, 0.03-0.09 g. per l. This is characteristic for L. F. L.

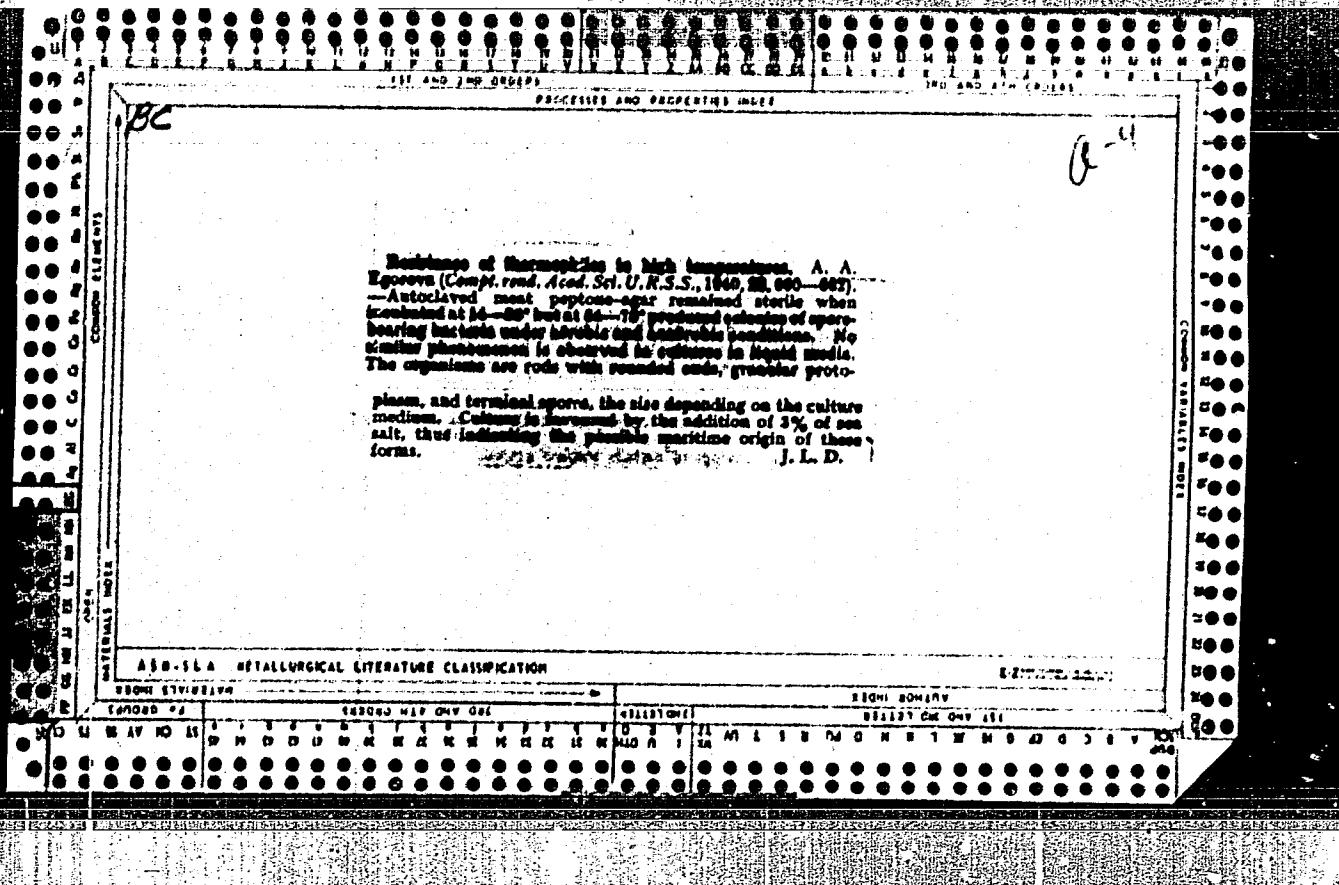
ASIA-SEA METALLURGICAL LITERATURE CLASSIFICATION

YEGOROVA, A. A.

"A Study of the Microflora on the Intestines of Arctic Animals," *Mikrobiol.*,
9, No.1, 1940

YEGOROVA, A. A.

"Microbiological Investigation of the Air, Snow, and Ice of the Kara Sea,"
Mikrobiol., 9, Nos.9-10, 1940



Oxidation of phenols by thermophilic bacteria. A. A. Egorova, *Microbiology* (U. S. S. R.) 11, 121-3 (1942) (English summary).—Oxidation of phenols by thermophilic bacteria at 60° is described. When the phenolic medium was passed through columns of slag, oxidation of the phenol occurred when the latter was present in a concentration of 1 g. per liter. Two g./l. hindered the development of the bacteria; 4 g. per liter stopped it. The investigation hoped to support the use of this process in the purification of phenol-contg. waters such as sewage from coke-benzeno plants delivering water heated up to 10°. The use of thermophilic bacteria made cooling of

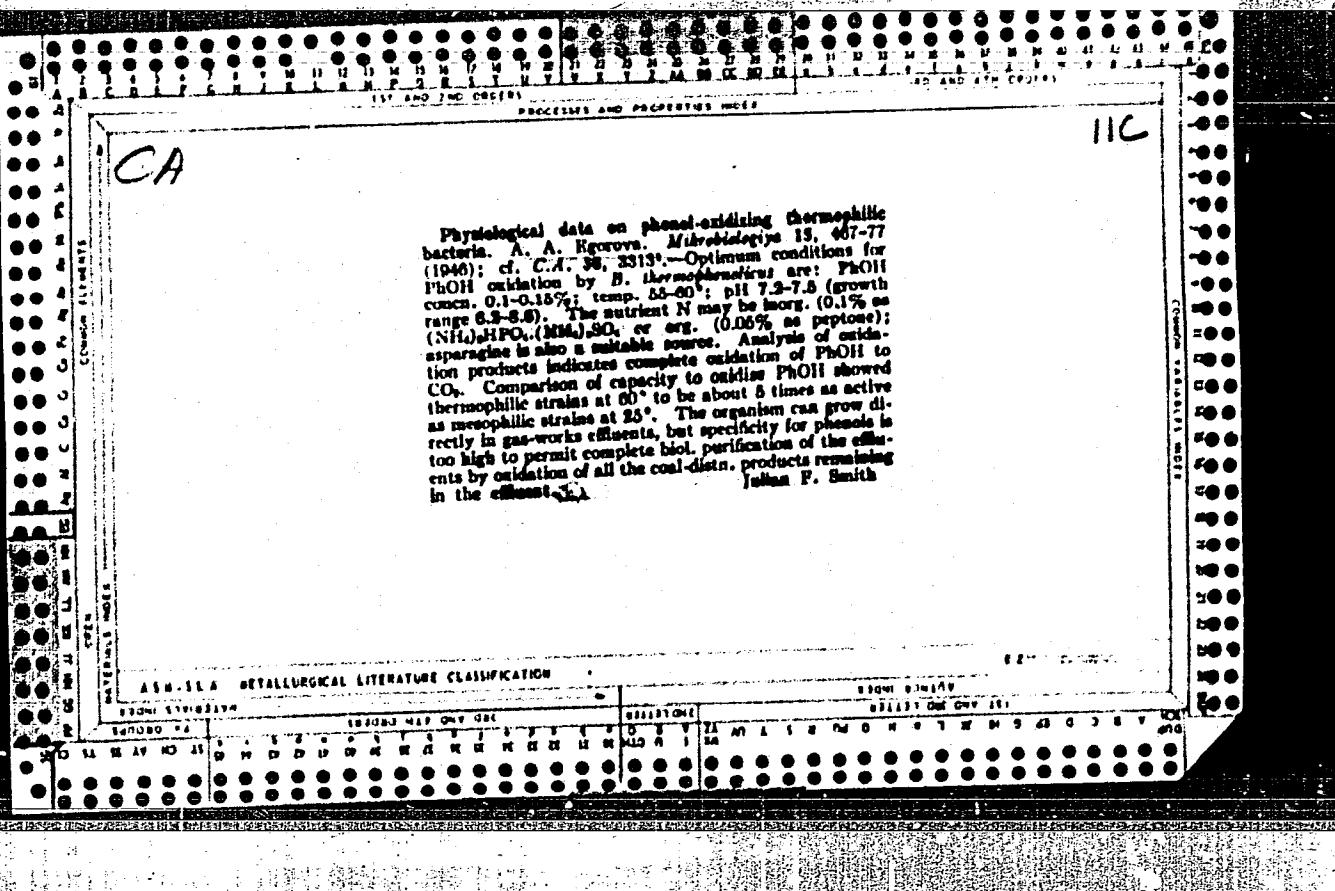
The waters unnecessary and accelerated the process of oxidation. H. Leverne Williams

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001962510013-3"

YEGOROVA, A. A.

"Actinomycetes in Reservoirs, as One of the Causes Responsible for the Earthy Smell of Their Waters," Mikrobiol., 13, No.5, 1944



C.R.
1951

Water, change, see for file
14

Microbiological investigation of Lake Beloye. A. A. Kudrya (Microbiol. Inst. Acad. Sci., Moscow). *Mikrobiologiya* 20, 103-120 (1951).—The H₂S content of Lake Beloye (14-20 m. depth) was 0.8 to 6.8 mg./l.; sulfate content, 0.3 to 20 m. depth, 485-775 mg./l. Saprophytes included several species of *Chromatium*, *Thiocystis rufacea*, and *Thiopspilum rufum*. The cell count was highest (1,400,000/ml.) at 14 m. depth. Julian P. Smith

YEGOROVA, A.A.; DERYUGINA, Z.P.; KUZNETSOV, S.I.

Characterization of saprophyte microflora of lake waters. Trudy Inst.
Mikrobiol., Akad. Nauk S.S.R. No.2, 139-49 '52. (MLRA 5:12)
(CA 47 no.16:8293 '53)

YEGOROVA, A.A.

Use of stiff vegetation as green fertilizer in fish breeding farms
on the Volga Delta. Trudy Inst. mikrobiol. no.3:201-212 '54.
(Volga Delta--Fish culture) (MIRA 8:3)
(Fertilizers and manures)

YEGOROVA, A.A.

Use of herbicides in controlling reeds and its effect on micro-
organisms and fish. Vop. ikht. no. 3:186-200 '55. (MLRA 8:11)

1. Institut mikrobiologii Akademii Nauk SSSR
(Fresh-water fauna)

KUZNETSOV, S.I.; KARZINKIN, G.S.; YEGOROVA, A.A.; KASTAL'SKAYA, M.A.;
KARASIKOVA, A.A.; IVANOV, N.V.; ZAVARZIN, G.A.; DERYUGINA, Z.P.

Rigid vegetation as green fertilizer for increasing the productivity of fish farms. Vop.ikht. no.5:119-137 '55. (MLRA 9:5)

1. Institut mikrobiologii Akademii nauk SSSR i Vsesoyuznyy nauchno-issledovatel'skiy institut morskogo rybnogo khozyaystva i okeanografii, VNIRO.

(Fish culture)

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001962510013-3

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001962510013-3"

YEGOROVA, A.A.

Studying the effect of the herbicide AE-1 on life in water during
the elimination of coarse vegetation. Trudy Inst.mikrobiol. no.5
206-213 '58 (MIRA 11:6)

1. Institut mikrobiologii AN SSSR.
(HERBICIDES, effects,
AE-1, on water plants (Rus))
(WATER,
eff. of herbicide AE-1 on water plants (Rus))

YEGOROVA, A.A., DERYUGINA, Z.P.

New method of making microscopic preparations from petroleum [with
summary in English]. Mikrobiologiya 27 no.4:501-502 Jl-Ag '58
(MIRA 11:9)

1. Institut mikrobiologii AN SSSR.

(PETROLEUM PRODUCTS,

method for producing microscopic prep. from petroleum
(Rus))

YEGOROVA, A.A.; DERYUGINA, Z.P.

Isolating pure cultures of micro-organisms (modified of L.I. Komarova's method). Mikrobiologija 28 no.4:611 J1-Ag '59. (MIRA 12:12)

1. Institut mikrobiologija AN SSSR.
(MICROBIOLOGY)

VOYTOV, V. I.; YEGOROVA, A.A.; TARASOV, N.I.

Luminiscence of cultures of the free-moving Bacterium
Issatchenkoi Egorova from the Black Sea. Dokl.AN SSSR
132 no.6:1425-1426 Je '60. (MIRA 13:6)

1. Institut mikrobiologii Akademii nauk SSSR. Predstavleno
akademikom V.N.Shaposhnikovym.
(BLACK SEA—BACTERIA, LUMINOUS)
(TRYPTONE)

YEGOROVA, A.A.; DERYUGINA, Z.P.

The sporeforming *Thiobacillus thermophilica* Imschenetskii nov.
sp. *Mikrobiologija* 32 no.3:439-446 My-Je'63 (MIRA 17:3)

1. Institut mikrobiologii AN SSSR.

CHUMAKOVA, R.I.; YEGOROVA, A.A.

Luminescence and oxidative enzyme activity of luminescent
bacteria. Mikrobiologija 33 no.3:423-427 My-Je '64.

(MIRA 18:12)

1. Institut fiziki Sibirskogo otdeleniya AN SSSR 1 Institut
mikrobiologii AN SSSR, Moskva. Submitted May 3, 1963.

CHUMAKOVA, R.I.; YEGOROVA, A.A.

Action of aminazin on the bioluminescence of bacteria.
Mikrobiologija 33 no.4;639-643 Jl-Ag '64. (MIRA 18:3)

1. Institut mikrobiologii AN SSSR i Institut fiziki Sibirskogo
otdeleniya AN SSSR,

L 20613-66 EWT(B)/T DJ

ACC NR: AP6010830

(A)

SOURCE CODE: UR/0065/66/000/004/0047/0048

52

AUTHOR: Kobzova, R. I.; Tubanskaya, G. S.; Oparina, Ye. M.; Zaytsev, V. A.;
Yegorova, A. A.

B

ORG: VNIINP

TITLE: TsTM: // a new effective stabilizer for silicone lubricants //

SOURCE: Khimiya i tekhnologiya topliv i masel, no. 4, 1966, 47-48

TOPIC TAGS: lubricant, lubricant additive, silicone lubricant, antioxidant additive

ABSTRACT: A study has been made of the antioxidant effectiveness of cyclopentadi-enyltricarbonylmanganese (designated TsTM in the source) in silicone lubricants. TsTM was found to surpass existing silicone antioxidants in stabilizing effectiveness and solubility. It is noted that prolonged service of silicone lubricants at 150-200C and above is normally rendered impossible by oxidation and polymerization and that existing antioxidant additives are insufficiently effective. The silicone lubricant used in this study was PMS-100 polydimethylsiloxane fluid (MRTU-6 No. YeU-230-61 specifications). The criterion of antioxidation effectiveness was the gelation time at 250-350C. TsTM was found to be a highly effective stabilizer of the PMS-100 fluid. At 250C the curve TsTM concentration versus effectiveness went through a maximum at 0.5%; at this maximum the gelation time was increased by a factor of 250. The optimum TsTM concentration was dependent on temperature. TsTM

Card 1/2

UDC: 665.521.5:547'28

L 20613-66

ACC NR: AF6010830

was highly soluble (up to 2% at minus 60C) in the PMS-100 fluid—an important advantage. A disadvantage was the unstability of TsTM solutions in PMS-100 on storage in the light; however, in the dark the solutions remained stable and effective for 1 year. Orig. art. has: 1 figure and 1 table. [SM]

SUB CODE: 11/ SURM DATE: none/ ORIG REF: 006/ OTH REF: 001/ ATD PRESS:4224

Card 2/2 *PK*

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001962510013-3

- THE SCALE ON SECTION 3 IS IN MM. BE SURE

W. M. Sternberg

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001962510013-3"

YEGOROVA, A.G.; GIMMERVERT, R.V.; LOPASHOVA, Ye.V.; YELENSKAYA, A.N.; LO-
BANOVA, A.Ya.; KHANZHINA, Ye.B., red.; SHILLING, V.A., red. izd-va;
BELOGUROVA, I.A., tekhn. red.

[System of preparing the rye-bread dough in an N.F.Gatilin outfit]
Rezhim prigotovleniya testa dlja ržanogo khleba v aggregate N.F.Ga-
tilina. By A.G.Egorova i dr. Leningrad, 1961. 16 p. (Leningradskii
Dom nauchno-tehnicheskoi propagandy. Obmen peredovym opytom. Se-
riia: Khlebopекарная промышленность, no.1) (MIRA 14:10)
(Dough) (Baking—Equipment and supplies)

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